This Page is Inserted by IFW Indexing and Scamming Operations and is not part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

□ BLACK BORDERS
□ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
□ FADED TEXT OR DRAWING
□ BLURRED OR ILLEGIBLE TEXT OR DRAWING
□ SKEWED/SLANTED IMAGES
□ COLOR OR BLACK AND WHITE PHOTOGRAPHS
□ GRAY SCALE DOCUMENTS
□ LINES OR MARKS ON ORIGINAL DOCUMENT
□ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY

IMAGES ARE BEST AVAILABLE COPY.

OTHER:

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

L Number	Hits	Search Text	DB	Time stamp
82	637	((piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/11/03
		same elastic near3 deform\$6)	US-PGPUB;	12:08
			EPO; JPO	
84	6	(((piezo or piezo\$1electric or piezoelectric or	USPAT;	2004/11/03 12:10
		bimorph) same elastic near3 deform\$6)) and	US-PGPUB;	
		(magnetic adj dis\$1 adj (drive or apparatus))	EPO; JPO	
8	1	((thermal adj record\$3 same heat adj element) and	USPAT;	2004/11/03
		((capacitive or capacitance) adj actuator))	US-PGPUB;	13:04
			EPO; JPO	
.01	3	360/59,294.1,294.2,294.3,294.4,294.5,294.6.ccls.	USPAT;	2004/11/03
		and ((capacitive or capacitance) adj actuator)	US-PGPUB;	13:06
			EPO; JPO	
	7902	(360/75,76,59).CCLS.	USPAT;	2004/10/29
			US-PGPUB;	08:31
			EPO; JPO	
	709263	(micro-actuator\$3 microactuat\$3 microposition\$3	USPAT;	2004/10/27
		subactuat\$3 ((actuat\$3 position\$3 driver\$1 motor\$1)	US-PGPUB;	16:54
		near3 (auxiliary second\$4 fin\$2 micro sub dual piezo	EPO; JPO	
		piezoelectric\$4 pzt bimorph piggyback\$3 (piggy adj		
		back\$3))))		
	418665	(((dis\$1 hard) near2 (drive apparatus)) HDA HDD	USPAT;	2004/10/27
		DASD RAID (magnetic storage drive\$1 assembly)	US-PGPUB;	16:40
		near2 (disk\$5 disc\$1 media medium) (storage near2	EPO; JPO	30110
		drive\$1))		
	56948	((micro-actuator\$3 microactuat\$3 microposition\$3	USPAT;	2004/10/27
		subactuat\$3 ((actuat\$3 position\$3 driver\$1 motor\$1)	US-PGPUB;	16:41
		near3 (auxiliary second\$4 fin\$2 micro sub dual piezo	EPO; JPO	10.11
		piezoelectric\$4 pzt bimorph piggyback\$3 (piggy adj	<u>.</u> , ., ., .	
		back\$3))))) and ((((dis\$1 hard) near2 (drive		
		apparatus)) HDA HDD DASD RAID (magnetic storage		
		drive\$1 assembly) near2 (disk\$5 disc\$1 media		
		medium) (storage near2 drive\$1)))		
	925	((360/75,76,59).CCLS.) and (((micro-actuator\$3	USPAT;	2004/10/27
		microactuat\$3 microposition\$3 subactuat\$3	US-PGPUB;	16:41
		_((actuat\$3_position\$3_driver\$1_motor\$1) near3	EPO; JPO	
		(auxiliary second\$4 fin\$2 micro sub dual piezo		
		piezoelectric\$4 pzt bimorph piggyback\$3 (piggy adj		
		back\$3))))) and ((((dis\$1 hard) near2 (drive		
		apparatus)) HDA HDD DASD RAID (magnetic storage		
		drive\$1 assembly) near2 (disk\$5 disc\$1 media		
		medium) (storage near2 drive\$1))))		
	3	(((360/75,76,59).CCLS.) and (((micro-actuator\$3	USPAT;	2004/10/27
	J	microactuat\$3 microposition\$3 subactuat\$3	US-PGPUB;	16:41
		((actuat\$3 position\$3 driver\$1 motor\$1) near3	EPO; JPO	10. 11
		(auxiliary second\$4 fin\$2 micro sub dual piezo		
		piezoelectric\$4 pzt bimorph piggyback\$3 (piggy adj		
		back\$3))))) and ((((dis\$1 hard) near2 (drive		
		apparatus)) HDA HDD DASD RAID (magnetic storage		
		drive\$1 assembly) near2 (disk\$5 disc\$1 media		
		medium) (storage near2 drive\$1))))) and (heat or heater) adj element		

Γ			1.150:-	T
-	3	(((360/75,76,59).CCLS.) and (((micro-actuator\$3	USPAT;	2004/10/27
		microactuat\$3 microposition\$3 subactuat\$3	US-PGPUB;	16:50
		((actuat\$3 position\$3 driver\$1 motor\$1) near3	EPO; JPO	
		(auxiliary second\$4 fin\$2 micro sub dual piezo		
		piezoelectric\$4 pzt bimorph piggyback\$3 (piggy adj		1
		back\$3))))) and ((((dis\$1 hard) near2 (drive		
		apparatus)) HDA HDD DASD RAID (magnetic storage		
		drive\$1 assembly) near2 (disk\$5 disc\$1 media		
		medium) (storage near2 drive\$1))))) and ((heat or		
		heater) adj element)		
_	6522	(magnetic adj (disk or disc or storage or medi\$2))	USPAT;	2004/10/27
		same slider	US-PGPUB;	16:52
		33.,,3 3.,23.	EPO; JPO	10.02
_	13	((magnetic adj (disk or disc or storage or medi\$2))	USPAT;	2004/10/27
	15	same slider) and ((heat or heater) adj element)	US-PGPUB;	16:53
		same stider) and ((near or neater) adj element)		10.55
1	123401	niama¢ 1alaatuia an niamada atuia	EPO; JPO	2004/10/27
-	123401	piezo\$1electric or piezoelectric	USPAT;	2004/10/27
			US-PGPUB;	16:54
	304	(/340/75 74 50) (/1 C) and (/2 - 44 1 4 4 4	EPO; JPO	2004/10/07
-	381	((360/75,76,59).CCLS.) and (piezo\$1electric or	USPAT;	2004/10/27
		piezoelectric)	US-PGPUB;	16:54
		(//2/0/75 7/ 50) 66/ 52 - 1/ 1 - 51 - 1/ 1	EPO; JPO	0004/40/0=
-	54	(((360/75,76,59).CCLS.) and (piezo\$1electric or	USPAT;	2004/10/27
,		piezoelectric)) and (offset\$4)	US-PGPUB;	17:05
			EPO; JPO	
-	1	(((360/75,76,59).CCLS.) and (piezo\$1electric or	USPAT;	2004/11/01 13:07
		piezoelectric)) and yaw adj angle	US-PGPUB;	
			EPO; JPO	
-	7	(((360/75,76,59).CCLS.) and (piezo\$1electric or	USPAT;	2004/10/27
		piezoelectric)) and yaw	US-PGPUB;	16:58
			EPO; JPO	
-	4	((((360/75,76,59).CCLS.) and (piezo\$1electric or	USPAT;	2004/10/27
		piezoelectric)) and (offset\$4)) and (heat or heater)	US-PGPUB;	17:06
			EPO; JPO	
-	201	((piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/10/28
-		-near3 offset\$4)	- US-PGPUB;	_11:56
			EPO; JPO	
-	3	(((piezo or piezo\$1electric or piezoelectric or	USPAT;	2004/11/03
		bimorph) near3 offset\$4)) and ((heat or heater) adj	US-PGPUB;	12:04
		element)	EPO; JPO	
-	135128	piezo or piezo\$1electric or piezoelectric or bimorph	USPAT;	2004/11/03
			US-PGPUB;	14:07
			EPO; JPO	
-	8541	(360/75,76,59,77.02,77.03). <i>CC</i> LS.	USPAT;	2004/10/28
			US-PGPUB;	12:05
			EPO; JPO	
-	192	(369/13.02,13.33).CCLS.	USPAT;	2004/10/28
			US-PGPUB;	12:00
			EPO; JPO	
-	518	(piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/10/28
		and ((360/75,76,59,77.02,77.03).CCLS.)	US-PGPUB;	12:00
		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	EPO; JPO	.=
_	473	((piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/10/28
	","	and ((360/75,76,59,77.02,77.03).CCLS.)) and (align\$4	US-PGPUB;	12:01
		or adjust\$4 or track\$4 or direction)	EPO; JPO	12.01
<u></u>	_1	or adjust of trackpy or direction)	LIO, JEO	I

_	182	(((piezo or piezo\$1electric or piezoelectric or	USPAT;	2004/10/28
		bimorph) and ((360/75,76,59,77.02,77.03).CCLS.))	US-PGPUB; EPO; JPO	12:02
		and (align\$4 or adjust\$4 or track\$4 or direction)) and (magnetic adj dis\$1)	Ero, Jro	
-	1	((369/13.02,13.33).CCLS.) and (((piezo or	USPAT;	2004/10/28
		piezo\$1electric or piezoelectric or bimorph) and	US-PGPUB;	12:02
		((360/75,76,59,77.02,77.03).CCLS.)) and (align\$4 or adjust\$4 or track\$4 or direction))	EPO; JPO	
_	9984	(piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/10/28
	7704	adj actuator	US-PGPUB; EPO; JPO	15:47
_	315	((piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/10/28
	0.10	adj actuator) and (magnetic adj dis\$1)	US-PGPUB; EPO; JPO	12:04
_	29	((360/75,76,59,77.02,77.03).CCL5.) and (((piezo or	USPAT;	2004/10/28
		piezo\$1electric or piezoelectric or bimorph) adj	US-PGPUB;	12:05
		actuator) and (magnetic adj dis\$1))	EPO; JPO	
-	8653	(360/75,76,59,77.02,77.03,78.05). <i>CC</i> LS.	USPAT;	2004/10/28
			US-PGPUB;	12:05
			EPO; JPO	
-	40	(((piezo or piezo\$1electric or piezoelectric or	USPAT;	2004/10/28
		bimorph) adj actuator) and (magnetic adj dis\$1)) and	US-PGPUB;	12:16
		((360/75,76,59,77.02,77.03,78.05). <i>CC</i> LS.)	EPO; JPO	
•	3718	((piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/10/28
		adj actuator) and (mirror or lens or beam)	US-PGPUB;	12:18
			EPO; JPO	
-	192	((((piezo or piezo\$1electric or piezoelectric or	USPAT;	2004/10/28
		bimorph) adj actuator) and (mirror or lens or beam))	US-PGPUB;	12:18
		and (magnetic adj dis\$1)) and actuator	EPO; JPO	
-	192	(((piezo or piezo\$1electric or piezoelectric or	USPAT;	2004/10/28
		bimorph) adj actuator) and (mirror or lens or beam))	US-PGPUB;	12:25
		and (magnetic adj dis\$1)	EPO; JPO	
-	116	((((piezo or piezo\$1electric or piezoelectric or	USPAT;	2004/10/28
		bimorph) adj actuator) and (mirror or lens or beam))	US-PGPUB;	15:42
		and (magnetic adj dis\$1)) and (laser or (heat adj	EPO; JPO	
-	391	369/13.33,13.32,13.13,13.12,13.11,300.ccls.	USPAT;	2004/10/28
			US-PGPUB; EPO; JPO	16:29
-	13	((piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/10/28
		near10 (magnet\$2 near2 optic\$2) near5 (head or slider\$1))	US-PGPUB; EPO; JPO	16:14
-	247	((piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/10/28
		near10 (magnet\$2 near2 optic\$2))	US-PGPUB; EPO; JPO	16:02
-	83	(((piezo or piezo\$1electric or piezoelectric or	USPAT;	2004/10/28
		bimorph) near10 (magnet\$2 near2 optic\$2))) and	US-PGPUB; EPO; JPO	16:13
_	7839	(head or slider\$1) ((piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/10/28
	/039	near5 (head or slider\$1))	US-PGPUB;	16:30
		Lied of Sugaratily	EPO; JPO	10.00
-	. 14	369/13.33,13.32,13.13,13.12,13.11,300.ccls. and	USPAT;	2004/10/28
		(((piezo or piezo\$1electric or piezoelectric or	US-PGPUB;	16:18

	103	340/200 ands	LICDAT	2004/10/20
-	103	369/300.ccls.	USPAT; US-PGPUB;	2004/10/29
			EPO; JPO	
_	336	369/13.33,13.32,13.13,13,12,13.11,300.ccls. and (slider	USPAT:	2004/10/28
		or head)	US-PGPUB;	16:55
		,	EPO; JPO	
-	44	(piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/10/28
		and (369/13.33,13.32,13.13,13.12,13.11,300.ccls. and	US-PGPUB;	16:52
		(slider or head))	EPO; JPO	
-	0	(piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/10/28
		and 369/13.33,13.11,13.1	US-PGPUB;	16:52
			EPO; JPO	
-	46	(piezo or piezo\$1electric or piezoelectric or bimorph)	USPAT;	2004/10/28
		and 369/13.33,13.32,13.13,13.12,13.11,300.ccls.	US-PGPUB;	16:52
			EPO; JPO	
-	191	(360/77.16). <i>CC</i> LS.	USPAT;	2004/10/28
			US-PGPUB;	16:56
	100	((2(0/7714) 66L6) and (land a little)	EPO; JPO	2004/10/20
-	190	((360/77.16).CCLS.) and (head or slider)	USPAT;	2004/10/28
			US-PGPUB;	16:56
	14	(((360/77.16).CCLS.) and (head or slider)) and (heat or	EPO; JPO USPAT;	2004/10/28
	14	heater)	US-PGPUB;	16:57
		neurer)	EPO; JPO	10.57
_	37	369/13.12.ccls.	USPAT;	2004/10/29
		007/10,12,0010.	US-PGPUB;	09:08
			EPO; JPO	
_	28636	((write or record\$3) adj head) same (adjust\$3 or	USPAT;	2004/10/29
		position\$3 or align\$3 or track\$3)	US-PGPUB;	09:13
			EPO; JPO	
-	616	(((write or record\$3) adj head) same (adjust\$3 or	USPAT;	2004/10/29
		position\$3 or align\$3 or track\$3)) and (heat near5	US-PGPUB;	09:14
		area)	EPO; JPO	
-	7	(((((write or record\$3) adj head) same (adjust\$3 or	USPAT;	2004/10/29
		position\$3 or align\$3 or track\$3)) and (heat near5	US-PGPUB;	09:15
		_area)).and.(piezo.or_piezo\$1electric.or_piezoelectric	EPO; JPO	
	124	or bimorph)) and slider	LICDAT	2004/10/20
	126	((((write or record\$3) adj head) same (adjust\$3 or position\$3 or align\$3 or track\$3)) and (heat near5	USPAT; US-PGPUB;	2004/10/29 09:50
		area)) and (piezo or piezo\$1electric or piezoelectric	EPO; JPO	09.50
		or bimorph)	2.0,010	
_	28	thermal adj record\$3 same heat adj element	USPAT;	2004/11/03
			US-PGPUB;	13:03
			EPO; JPO	
-	4	((magnet\$2 near2 optic) same (align\$3 or adjust\$3)	USPAT;	2004/10/29
		near2 head)	US-PGPUB;	10:04
			EPO; JPO	
-	6	("5986978" "6016290" "6243288" "6243350"	USPAT	2004/10/29
	_	"6307818" "6507540").PN.		10:06
-	2	((magnet\$2 near2 optic adj dis\$1) same (align\$3 or	USPAT;	2004/10/29
		adjust\$3) near2 head)	US-PGPUB;	11:26
	2	(/U4224120U) on /U4275454U\\ DN 1	EPO; JPO	2004/10/20
_	2	(("6324130") or ("6275454")).PN.	USPAT; US-PGPUB;	2004/10/29 10:31
			EPO; JPO	10.31
<u> </u>	11/2/04		LI 0, JF0	

•	1034	360/59,294.1,294.2,294.3,294.4,294.5,294.6.ccls.	USPAT;	2004/10/29 11:01
			US-PGPUB;	
			EPO; JPO	
-	225	360/59,294.1,294.2,294.3,294.4,294.5,294.6.ccls.	USPAT;	2004/10/29
		and ((position\$3 or align\$3 or track\$3) near head and	US-PGPUB;	11:02
		slider)	EPO; JPO	
-	332	360/59,294.1,294.2,294.3,294.4,294.5,294.6.ccls.	USPAT;	2004/11/03
		and ((position\$3 or align\$3 or track\$3) near head)	US-PGPUB;	13:05
			EPO; JPO	
-	18	(360/59,294.1,294.2,294.3,294.4,294.5,294.6.ccls.	USPAT;	2004/10/29
		and ((position\$3 or align\$3 or track\$3) near head))	US-PGPUB;	11:03
		and (magnet\$2 near2 optic)	EPO; JPO	